

PENDING CLAIMS

1 1. (unchanged) A fabrication method, comprising the steps of:

2 forming a dielectric structure over a contact region, the dielectric structure comprising:

3 a first layer formed from a first material; and

4 a second layer overlying the first layer and formed from a second material which
5 may be selectively etched with respect to the first material;

6 forming and patterning a resist layer over the dielectric structure;

7 selectively etching the second layer through an opening through the patterned resist layer

8 utilizing an etch which is selective of the first material over the second material; and

9 without stripping the resist layer, etching the dielectric structure through the opening
10 within the patterned resist layer and any etched region within the second layer to form a contact
11 opening extending through the dielectric structure and exposing the contact region.

1 35. (unchanged) The method of claim 1, wherein the step of forming a dielectric structure over
2 a contact region further comprises:

3 forming a third layer underlying the first layer and formed from a material different than
4 the first material.

1 36. (unchanged) The method of claim 35, wherein the step of forming a dielectric structure over
2 a contact region further comprises:

3 forming a third layer from a silicate glass doped with a gettering agent;

4 forming the first layer of silicon nitride; and

5 forming the second layer of borophosphosilicate glass.

1 37. (unchanged) The method of claim 1, wherein the step of selectively etching the second layer
2 through an opening through the patterned resist layer utilizing an etch which is selective of the
3 first material over the second material further comprises:

4 etching an opening through the second layer.

1 38. (unchanged) The method of claim 37, wherein the step of etching an opening through the
2 second layer further comprises:

3 utilizing a relatively isotropic etch process to etch the opening through the second layer,

4 wherein the opening through the second layer undercuts the patterned resist layer.

1 39. (unchanged) The method of claim 37, wherein the step of etching an opening through the
2 second layer further comprises:

3 utilizing a wet etch process to etch the opening through the second layer.

1 40. (unchanged) The method of claim 37, wherein the step of etching the dielectric structure
2 through the opening within the patterned resist layer and any etched region within the second
3 layer to form a contact opening extending through the dielectric structure and exposing the
4 contact region further comprises:

5 utilizing a relatively anisotropic etch process to etch a remainder of the opening
6 extending through the dielectric structure through the opening within the patterned resist layer.

1 41. (unchanged) The method of claim 37, wherein the step of etching the dielectric structure
2 through the opening within the patterned resist layer and any etched region within the second
3 layer to form a contact opening extending through the dielectric structure and exposing the
4 contact region further comprises:

5 utilizing a plasma etch process to etch a remainder of the opening extending through the
6 dielectric structure through the opening within the patterned resist layer, the patterned resist
7 layer masking the plasma etch process.

1 49. (unchanged) A method of forming a contact opening, comprising:

2 forming a dielectric structure over a contact region, the dielectric structure comprising:

3 a first layer formed from a first material; and

4 a second layer overlying the first layer and formed from a second material which
5 may be selectively etched with respect to the first material;

6 forming and patterning a resist layer over the dielectric structure;

7 selectively etching the second layer through an opening through the patterned resist layer
8 utilizing a relatively isotropic etch process which is selective of the first material over the
9 second material and which undercuts the patterned resist layer in an etched region formed by
10 the relatively isotropic etch process; and

11 without stripping the resist layer, etching the dielectric structure, utilizing a relatively
12 anisotropic etch process, through the opening within the patterned resist layer and the etched
13 region within the second layer to form a contact opening extending through the dielectric
14 structure and exposing the contact region.

1 50. (unchanged) The method of claim 49, wherein the step of selectively etching the second
2 layer through an opening through the patterned resist layer utilizing a relatively isotropic etch
3 process which is selective of the first material over the second material and which undercuts the
4 patterned resist layer in an etched region formed by the relatively isotropic etch process further
5 comprises:

6 etching an opening through the second layer utilizing the first layer as an etch stop.

1 51. (unchanged) The method of claim 50, wherein the step of selectively etching the second
2 layer through an opening through the patterned resist layer utilizing a relatively isotropic etch
3 process which is selective of the first material over the second material and which undercuts the
4 patterned resist layer in an etched region formed by the relatively isotropic etch process further
5 comprises:

6 wet etching the opening through the second layer utilizing hydrofluoric acid, wherein the
7 second layer is formed of a borophosphosilicate glass.

1 52. (unchanged) The method of claim 50, wherein the step of etching the dielectric structure,
2 utilizing a relatively anisotropic etch process, through the opening within the patterned resist
3 layer and the etched region within the second layer to form a contact opening extending through
4 the dielectric structure and exposing the contact region further comprises:

5 plasma etching a remainder of the opening through the dielectric structure through the
6 opening through the patterned resist layer and through the opening through the second layer.

1 53. (unchanged) The method of claim 52, wherein the step of plasma etching a remainder of the
2 opening through the dielectric structure through the opening through the patterned resist layer
3 and through the opening through the second layer further comprises:

4 masking the plasma etching process with the patterned resist layer.

ATTORNEY DOCKET NO. 93-C-077C1 (STMI01-93077)
U.S. SERIAL NO. 09/712,827
PATENT

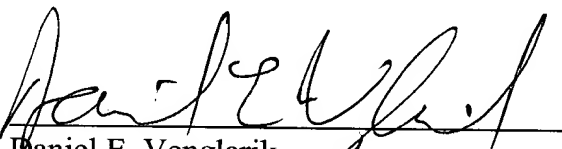
If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *dvenglarik@davismunck.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

DAVIS MUNCK, P.C.

Date: 11-2-02


Daniel E. Venglarik
Registration No. 39,409

P.O. Box 802432
Dallas, Texas 75380
(972) 628-3621 (direct dial)
(972) 628-3600 (main number)
(972) 628-3616 (fax)
E-mail: *dvenglarik@davismunck.com*